Federal Highway Administration (FHWA), Federal Railroad Administration (FRA), and Federal Transit Administration (FTA)

Range-wide Programmatic Consultation for Indiana Bat and Northern Long-eared Bat

Avoidance and Minimization Measures

Updated May 2016

For projects to be covered by the Programmatic Biological Opinion (BO), specific avoidance and minimization measures (AMMs) related to the Indiana bat and northern long-eared bat (NLEB) will be implemented where applicable. AMMs, if adopted under appropriate circumstances, are expected to reduce the potential impacts of the proposed action on both bat species. In some instances, impacts will be reduced to levels that are insignificant or discountable; therefore, not likely to adversely affect (NLAA) either species. In other cases, take will be unavoidable even with the implementation of AMMs; therefore, likely to adversely affect (LAA) either species.

The following AMMs are necessary to avoid and minimize impacts to the Indiana bat and NLEB, and where applicable, are required for projects using the range-wide programmatic consultation.

AMMs for Projects NLAA

Unless presence and absence (P/A) summer surveys[1] document that the species are not likely to be present, the following AMMs are REQUIRED, as applicable, in order for projects to NLAA the Indiana bat and the NLEB (i.e., projects qualify to use the range-wide programmatic informal consultation).

All NLAA Projects

General AMM 1. Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all FHWA/FRA/FTA (Transportation Agencies) environmental commitments, including all applicable AMMs.

Lighting

Lighting AMM 1. Direct temporary lighting away from suitable habitat during the active season.

Lighting AMM 2. Use downward-facing, full cut-off[2] lens lights, and direct lighting away from suitable habitat when installing new or replacing existing permanent lights.

Tree Removal

The word "trees" as used in the AMMs refers to trees that are suitable habitat[3] for each species within their range.

[1] P/A summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernacula (contact local Service Field Office for appropriate home range) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

[2] http://www.lithonia.com/micro_webs/nighttimefriendly/cutoff.asp

Tree Removal AMM 1. Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to the extent practicable to avoid tree removal in excess of what is required to implement the project safely.

Note: Tree Removal AMM 1 is an avoidance measure, the full implementation of which may not always be practicable. In such cases, projects may still be NLAA as long as Tree Removal AMMs 2, 3, and 4 are implemented.

Tree Removal AMM 2. Apply time of year (TOY) restrictions for tree removal[4] when bats are not likely to be present.

Tree Removal AMM 3. Ensure tree removal is limited to that specified in project plans. Install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits. Ensure that contractors understand clearing limits and how they are marked in the field.

Tree Removal AMM 4. Do not cut down documented Indiana bat or NLEB roosts (that are still suitable for roosting) or trees within 0.25 miles of roosts, or documented foraging habitat at any time of year.

Bridges

Unless bridge assessments or P/A surveys have occurred to document that the species are not likely to be present, the following AMMs are REQUIRED, as applicable, in order for projects to NLAA the Indiana bat and the NLEB (i.e., projects qualify to use the range-wide programmatic informal consultation). *See User's Guide Appendix D for bridge/structure assessment guidance.*

Bridge AMM 1. To completely avoid direct effects to roosting bats, perform any bridge repair, retrofit, maintenance, and/or rehabilitation work during the winter hibernation period[5]. Also, follow Bridge AMM 5.

Note: Bridge Removal AMM 1 is an avoidance measure, the full implementation of which may not be practicable. In such cases, projects may still be NLAA as long as Bridge AMMs 2, 3, 4 and 5 are implemented.

Active Season Bridge Work

Bridge AMM 2. If construction activity is planned during the active season, perform a bridge assessment for presence of bats. *See User Guide Appendix D for bridge/structure assessment guidance.*

Bridge AMM 3. If bridge assessment for bats suggests presence of bats, ensure activity will not disturb bats. The following types of bridge work can be conducted with the presence of bats:

[3] See the Service's current summer survey guidance for our latest definitions of suitable habitat.
[4] Coordinate with the local Service Field Office for appropriate dates.
[5] Coordinate with the local Service Field Office for appropriate dates.

- Above deck work that does not drill down to the underside of deck or include percussives (vibration) or noise levels above general traffic (e.g., road paving, wing-wall work, work above that does not drill down to the underside of the deck,).
- Below deck work that is conducted away from roosting bats and does not involve percussives or noise levels above general traffic (e.g., some abutment, beam end, scour, or pier repair). Also, follow Lighting AMM 1.

Bridge AMM 4. If bridge assessment for bats suggests presence of a small number of bats (5)[6], conduct bridge repair, retrofit, maintenance, and/or rehabilitation work (including activity with percussives) outside of pup season (June 1- July 31) *AND* keep the light localized in the evening while the bats are feeding, starting one hour after sunset and ending one hour before daylight, excluding the hours between 10 p.m. and midnight.[7]

Active OR Inactive Season Bridge Work

Bridge AMM 5. Ensure suitable roosting sites remain after any bridge work. Suitable roosting sites may be incorporated into the design of a new bridge.

Structures

This category is intended to capture manmade structures that may provide bat roosting habitat that are not bridges. They may include, but are not limited to, rest areas, offices, sheds, outbuildings, barns, and parking garages.

The following AMMs are REQUIRED, as applicable, in order for projects to NLAA the Indiana bat and the NLEB (i.e., projects quality to use the range-wide programmatic informal consultation).

Structure AMM 1. If the goal of the project is to exclude bats, coordinate with your local Service Field Office and follow Acceptable Management Practices for Bat Control Activities in Structures guidance document (White-nose Syndrome Conservation and Recovery Working Group 2015).[8]

Structure AMM 2. Perform maintenance and/or repair work during the winter hibernation period[9] unless a hibernating colony of bats is present.

Structure AMM 3. If maintenance and/or repair work will be performed outside of the winter hibernation period, determine if work will occur in an area with roosting bats. If there is observed bat activity (or signs of frequent bat activity), Transportation Agencies/State Departments of Transportation (DOTs) will avoid maintenance activity bat exclusions, or similar structure alteration during the active season unless there are concerns about human health/safety/property. The agency will coordinate with a nuisance wildlife control officer and the local Service Field Office.

[6] This number is far lower than the typical maternity colony size (USFWS 2007, 2014)
[7] Keeley and Tuttle (1999) indicated peak night roost usage is between 10:00 p.m. to midnight.
[8] https://www.whitenosesyndrome.org/sites/default/files/resource/wns_nwco_amp_1_april_2015_0.pdf
[9] Coordinate with the local Service Field Office for appropriate dates.

Structure AMM 4. If bat activity (or signs of frequent bat activity) are observed, Transportation agencies/State DOTs will avoid removing structures unless there are concerns about human health/safety/property and coordinate with a nuisance wildlife control officer and the local Service Field Office.

Hibernacula

The following AMM is REQUIRED, as applicable, in order for projects to NLAA the Indiana bat and the NLEB (i.e., projects qualify to use the range-wide programmatic informal consultation).

Hibernacula AMM 1. For projects located within karst areas containing hibernacula, establish a natural area/buffer of 300 feet or greater around any cave, sinkhole, losing stream, or spring found within the action area. On-site personnel will select appropriate sites outside of this buffer for parking, maintenance, staging, fueling, and stormwater management activities, etc. and subsequently use best management practices, secondary containment measures, or other standard spill prevention and countermeasures to avoid impacts to the hibernaculum.

AMMs for Programmatic LAA

Unless P/A summer surveys[10] document that the species are not likely to be present, the following AMMs will be implemented to the maximum extent practicable for projects LAA the Indiana bat and NLEB (i.e., projects qualify to use the range-wide programmatic formal consultation). While most AMMs are not required (see specifics below), they can reduce likelihood of exposure or amount of impact.

All LAA Projects

General AMM1. Ensure all operators, employees, and contractors working in areas of known or presumed bat habitat are aware of all Transportation Agency environmental commitments, including all applicable AMMs. {REQUIRED}

Lighting

Lighting AMM 1. Direct temporary lighting away from suitable habitat during the active season. {REQUIRED}

Lighting AMM 2. Use downward-facing, full cut-off[11] lens lights, and direct lighting away from suitable habitat when installing new or replacing existing permanent lights. {REQUIRED}

[10] P/A summer surveys conducted within the fall swarming/spring emergence home range of a documented Indiana bat hibernacula (contact local Service Field Office for appropriate home range) that result in a negative finding requires additional consultation with the local Service Field Office to determine if clearing of forested habitat is appropriate and/or if seasonal clearing restrictions are needed to avoid and minimize potential adverse effects on fall swarming and spring emerging Indiana bats.

[11] http://www.lithonia.com/micro_webs/nighttimefriendly/cutoff.asp

Tree Removal

The word "trees" as used in the AMMs refers to trees that are suitable habitat[12] for each species within their range.

Tree Removal AMM 1. Modify all phases/aspects of the project (e.g., temporary work areas, alignments) to the extent practicable to avoid tree removal in excess of what is required to implement the project safely.

Note: Tree Removal AMM 1 is an avoidance measure, the full implementation of which may not always be practicable. The remaining AMMs are designed to minimize impacts to varying degrees.

Tree Removal AMM 2. Apply time of year (TOY) restrictions for tree removal[13] when bats are not likely to be present.

Tree Removal AMM 3. Ensure tree removal is limited to that specified in project plans. Install bright colored flagging/fencing prior to any tree clearing to ensure contractors stay within clearing limits. Ensure that contractors understand clearing limits and how they are marked in the field. {REQUIRED}

Tree Removal AMM 4. Do not cut down documented Indiana bat or NLEB roosts (that are still suitable for roosting) or trees within 0.25 miles of roosts, or documented foraging habitat at any time of year.

Tree Removal AMM 5. Avoid conducting tree removal within documented Indiana bat roosting/foraging habitat[14] or travel corridors from May 1-July 31. {REQUIRED}

Tree Removal AMM 6. Minimize tree removal within suitable Indiana bat habitat (no documented habitat) from May 1-July 31 in the following manner. {REQUIRED}

1) Limit clearing such that all trees can be visually assessed.

2a) Conduct visual emergence surveys if trees are greater than or equal to 9 inches diameter at breast height (dbh).

- If no bats are observed, proceed with clearing the following day (NLAA).
- If bats observed, modify project to conduct tree removal after August 1 (LAA).

OR

2b) If trees are <9 inches dbh, no emergence survey required (LAA).

[12] See the Service's current summer survey guidance for our latest definitions of suitable habitat.
[13] Coordinate with the local Service Field Office for appropriate dates.
[14] Documented roosting or foraging habitat – for the purposes of this BA, we are considering documented habitat as that where Indiana bats and/or NLEB have actually been captured and tracked using (1) radio telemetry to roosts; (2) radio telemetry biangulation/triangulation to estimate foraging areas; or (3) foraging areas with repeated use documented using acoustics. Documented roosting habitat is also considered as suitable summer habitat within 0.25 miles of documented roosts.

Tree Removal AMM 7. Avoid removing documented NLEB maternity roosts and trees within 150 feet of those roosts from June 1-July 31. {REQUIRED}

Bridges

Unless bridge assessments or P/A surveys have occurred to document that the species are not likely to be present[15], implement AMMs, as applicable, for projects LAA the Indiana bat and the NLEB (i.e., projects qualify to use the range-wide formal consultation). *See User Guide Appendix D for bridge/structure assessment guidance.*

Bridge AMM 1. To completely avoid direct effects to roosting bats, perform any bridge repair, retrofit, maintenance, and/or rehabilitation work during the winter hibernation period[16]. Also, follow Bridge AMM 5.

Note: Bridge AMM 1 is an avoidance measure, the full implementation of which may not always be practicable.

If bridge repair, retrofit, maintenance, and/or rehabilitation work must be performed outside of the winter hibernation period, then follow Bridge AMMs 2-5.

Active Season Bridge Work

Bridge AMM 2. If construction activity is planned during the active season, perform a bridge assessment for presence of bats. *See User Guide Appendix D for bridge/structure assessment guidance.* {REQUIRED}

Bridge AMM 3. If bridge assessment for bats suggests presence of bats, ensure activity will not disturb bats. The following types of bridge work can be conducted with the presence of bats:

- Above deck work that does not drill down to the underside of deck or include percussives (vibration) or noise levels above general traffic (e.g., road paving, wing-wall work, work above that does not drill down to the underside of the deck,).
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Bridge AMM 4. If bridge assessment for bats suggests presence of a small number of bats (5), conduct bridge repair, retrofit, maintenance, and/or rehabilitation work (including activity with percussives) outside of pup season (June 1- July 31) AND keep light localized in the evening while the bats are feeding, starting one hour after sunset and ending one hour before daylight, excluding the hours between 10 p.m. and midnight[17].

Active OR Inactive Season Bridge Work

[15] Negative bridge assessments are valid for one year.
[16] Coordinate with local Service Field Office for appropriate dates.
[17] Keeley and Tuttle (1999) indicated peak night roost usage is between 10:00 p.m. to midnight.

Bridge AMM 5. Ensure suitable roosting sites remain after any bridge work. Suitable roosting sites may be incorporated into the design of a new bridge. {REQUIRED}

Structures

The following AMMs are REQUIRED, as applicable, for projects NLAA or LAA the Indiana bat and for projects NLAA the NLEB.

Structure AMM 1. If the goal of the project is to exclude bats, coordinate with your local Service Field Office and follow Acceptable Management Practices for Bat Control Activities in Structures guidance document (White-nose Syndrome Conservation and Recovery Working Group 2015).[18]

Structure AMM 2. Perform maintenance and/or repair work during the winter hibernation period[19] unless a hibernating colony of bats is present.

Structure AMM 3. If maintenance and/or repair work will be performed outside of the winter hibernation period, determine if work will occur in an area with roosting bats. If there is observed bat activity (or signs of frequent bat activity), Transportation Agencies/State DOTs will avoid maintenance activity bat exclusions or similar structure alteration during the active season unless there are concerns about human health/safety/property. The agency will coordinate with a nuisance wildlife control officer and the local Service Field Office.

Structure AMM 4. If bat activity (or signs of frequent bat activity) are observed, Transportation Agencies/State DOTs will avoid removing structures unless there are concerns about human health/safety/property and coordinate with a nuisance wildlife control officer and the local Service Field Office.

Hibernacula

The following AMM is REQUIRED, as applicable, for projects LAA the Indiana bat and the NLEB (i.e., projects qualify to use the range-wide programmatic formal consultation).

Hibernacula AMM 1. For projects located within karst areas containing hibernacula, establish a natural area/buffer of 300 feet or greater around any cave, sinkhole, losing stream, or spring found within the action area. On-site personnel will select appropriate sites outside of this buffer for parking, maintenance, staging, fueling, and stormwater management activities, etc. and subsequently use best management practices, secondary containment measures, or other standard spill prevention and countermeasures to avoid impacts to the hibernaculum.

[18] https://www.whitenosesyndrome.org/sites/default/files/resource/wns_nwco_amp_1_april_2015_0.pdf
[19] Coordinate with local Service Field Office for appropriate dates.